Cambridge IGCSE

Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

1543165545

MATHEMATICS **0580/12**

Paper 1 (Core) **October/November 2019**

1 hour

Candidates answer on the Question Paper.

Additional Materials: Electronic calculator
Tracing paper (optional)
Geometrical instruments

READ THESE INSTRUCTIONS FIRST

Write your centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.
If working is needed for any question it must be shown below that question.
Electronic calculators should be used.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.
For π, use either your calculator value or 3.142.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total of the marks for this paper is 56.

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1 Simplify $5t + 4t - 2t$.

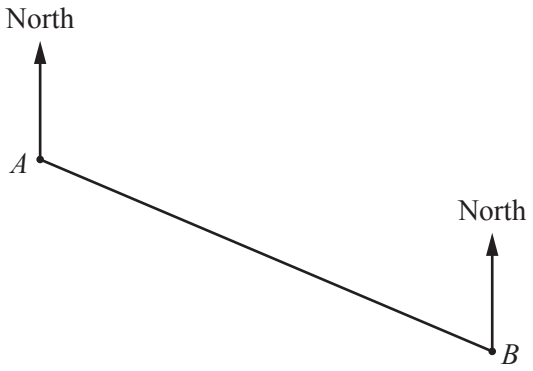
..... [1]

2 The lowest temperature recorded at Scott Base in Antarctica is $-57.0\,°C$.
The highest temperature recorded at Scott Base is $63.8\,°C$ more than this.

What is the highest temperature recorded at Scott Base?

..... °C [1]

3



Measure the bearing of B from A.

..... [1]

4 Find the value of

(a) 24^2,

..... [1]

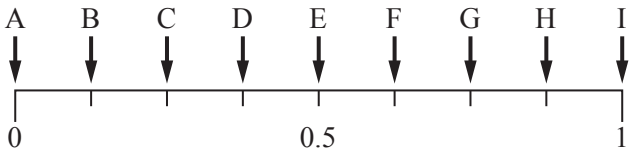
(b) $\sqrt[3]{2197}$.

..... [1]

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5 A bag contains 3 green balls, 4 red balls and 1 blue ball only.
Matt takes a ball from the bag at random.

Some probabilities are marked on the probability scale.



Write down the letter that shows the probability that

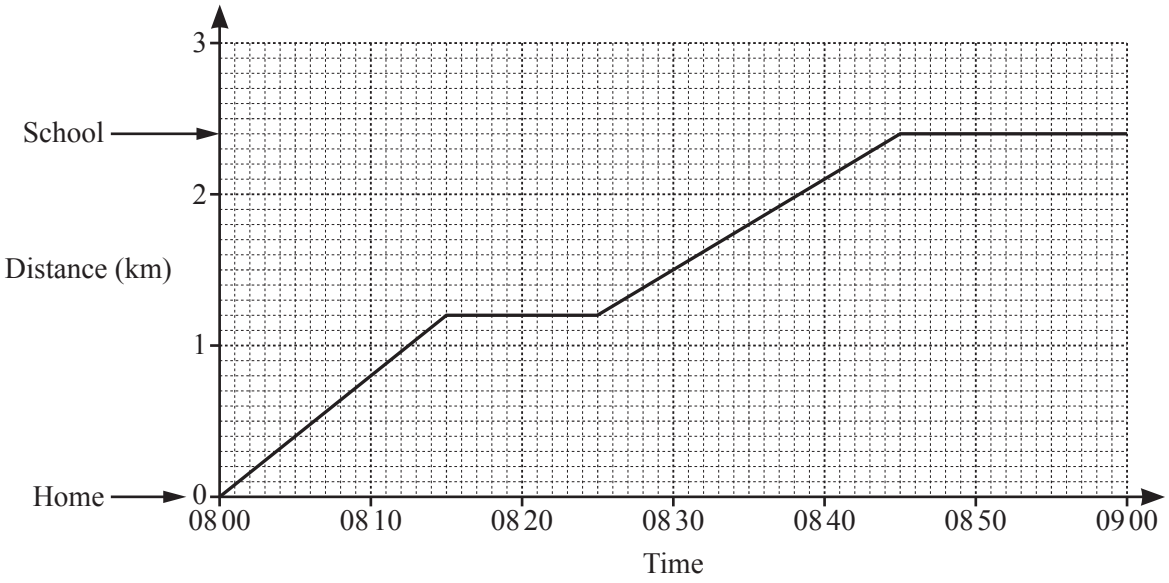
(a) Matt takes a red ball,

..... [1]

(b) Matt does **not** take a blue ball.

..... [1]

6 Sara walks from home to school.
The travel graph shows her journey.



(a) Sara stops at a shop on her way to school.

Find the distance of the shop from her home.

..... km [1]

(b) School starts at 08 55.

Find the number of minutes between the time Sara arrives at school and the time school starts.

..... min [1]

7 Write these in order of size, starting with the smallest.

$\frac{7}{8}$ $\frac{5}{7}$ 0.8 78%

..... < ..... < ..... < ..... [2]
smallest

8 The table shows how children in Ivan's class travel to school.

Travel to school	Number of children
Walk	12
Car	7
Bicycle	9
Bus	4

Ivan wants to draw a pie chart to show this information.

Find the sector angle for children who walk to school.

..... [2]

9 Rashid changes 30 000 rupees to dollars when the exchange rate is \$1 = 68.14 rupees.

How many dollars does he receive?

\$ ..... [2]

10 Complete the statements.

3.5 kg = ... g

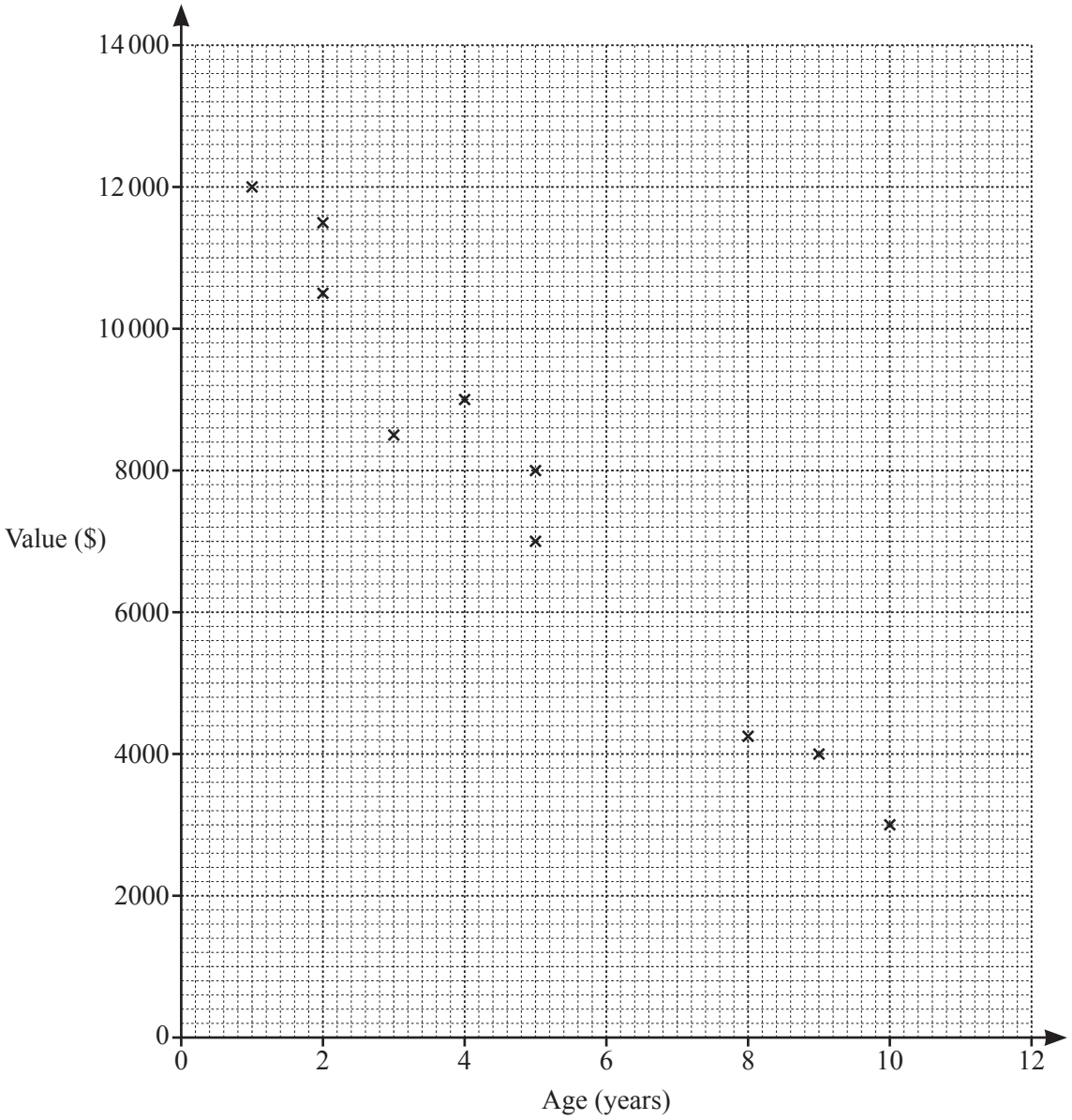
1.4 m^2 = ... cm^2 [2]

11 Kiran leaves home at 9.45 am.
She drives 135 km to visit a friend.
She arrives at her friend's house at 11.15 am.

Work out her average speed in km/h.

..... km/h [2]

12 The scatter diagram shows the age and value of each of ten cars, all of the same model.



By drawing a line of best fit, estimate the value of a car that is 6 years old.

$ ..... [2]

13 Find the value of

(a) $6^0 + 6^2$,

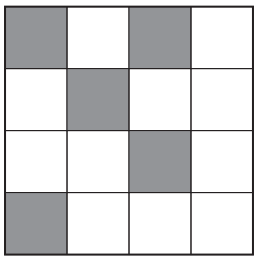
..... [1]

(b) 5^{-4}.

..... [1]

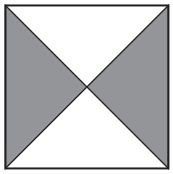
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14 **(a)**



Shade two more small squares to give a pattern with exactly one line of symmetry. [1]

(b)



Complete the description of this pattern.

The pattern has ..... lines of symmetry

and order of rotational symmetry ..... [2]

15 These are the number of texts sent one day by each of 10 students.

18 13 15 8 9 17 12 8 6 14

(a) Write down the mode.

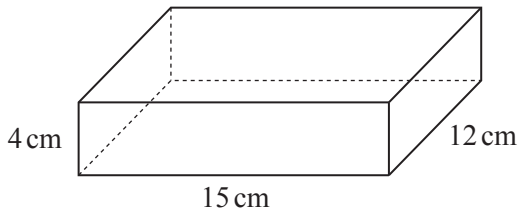
..... [1]

(b) Calculate the mean.

..... [2]

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16



NOT TO SCALE

The diagram shows a cuboid measuring 15 cm by 12 cm by 4 cm.

Calculate the surface area of the cuboid.

..... cm^2 [3]

17 **Without using a calculator**, work out $3\frac{5}{8} - 1\frac{2}{3}$.

You must show all your working and give your answer as a mixed number in its simplest form.

..... [3]

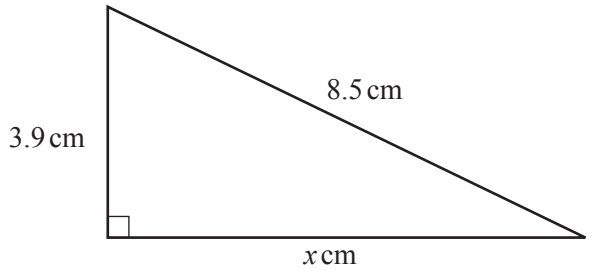
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18 Javier invests $750 for 3 years at a rate of 1.8% per year compound interest.

Calculate the value of his investment at the end of the 3 years.

$ ..... [3]

19



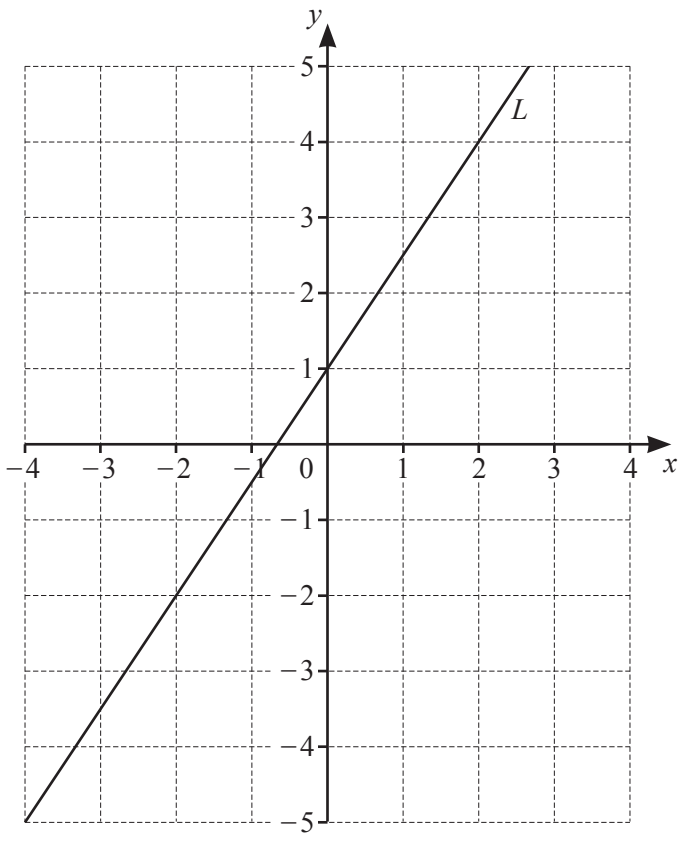
NOT TO SCALE

The diagram shows a right-angled triangle.

Calculate the value of x.

x = ... [3]

20 The line L is shown on the grid.



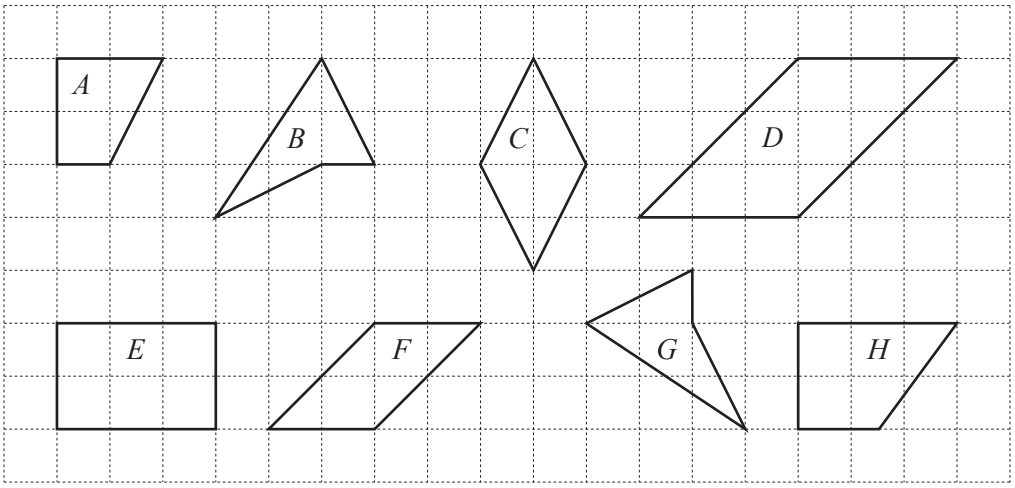
(a) Find the gradient of the line L.

..... [2]

(b) Find the equation of the line L in the form $y = mx + c$.

$y =$ ..... [1]

21



The diagram shows some quadrilaterals.

Complete the statements.

(a) Quadrilateral ..... is a rhombus. [1]

(b) Quadrilateral *A* is a ..... [1]

(c) Quadrilaterals ..... and ..... are congruent. [1]

(d) Quadrilaterals ..... and ..... are similar. [1]

22 Esme buys x magazines at \$2.45 each and y cards at \$3.15 each.

(a) Write down an expression, in terms of x and y, for the total cost, in dollars, of the magazines and the cards.

\$ ..... [2]

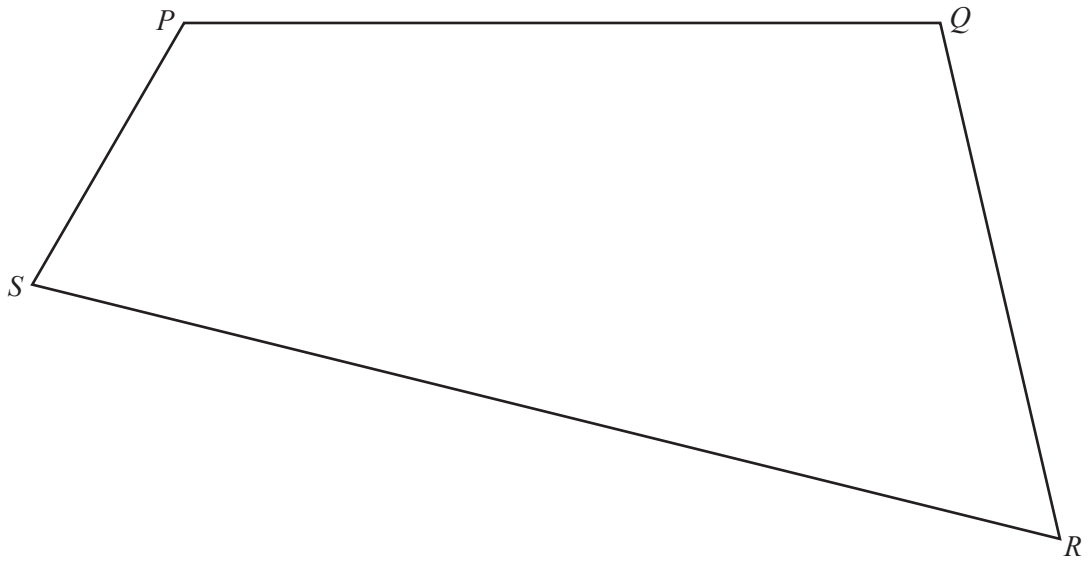
(b) Esme spends \$60.55 in total.
She buys 8 magazines.

How many cards does she buy?

..... [2]

Question 23 is printed on the next page.

23 The diagram shows a scale drawing of Lei's garden, *PQRS*.
The scale is 1 centimetre represents 2 metres.



Scale: 1 cm to 2 m

Lei has a bird table in the garden that is

- equidistant from *PQ* and *QR*

and

- 13 m from *R*.

On the diagram, construct the position of the bird table.
Use a ruler and compasses only and show all your construction arcs. [4]

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